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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,034	08/18/2003	Chandrasekhar Narayanaswami	YOR920030124US1	3226

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EXAMINER	
RICHER, AARON M	
ART UNIT	**PAPER NUMBER**
2628	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,034	NARAYANASWAMI ET AL.	
	Examiner	Art Unit	
	Aaron M. Richer	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *8-12 and 20-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 13-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Election/Restrictions

2. Applicant's election of Group I in the reply filed on March 9, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 12, 15, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). From the examiner's best interpretation of the specification, the term "virtual memory" in claims 4, 12, 15, and 25 is used by the claim to mean "memory in which virtual images reside", while the

accepted meaning is "simulated memory on a hard disk that emulates RAM, allowing an application to operate as if a computer has more memory than it actually does." The term is indefinite because the specification does not clearly redefine the term. The term "virtual memory" does not appear in the specification at all, and all instances of the word "virtual" concern "virtual images", or images that are only stored in memory and not displayed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 7, 13, 14, 16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlsen (U.S. Patent 6,020,897).

7. As to claims 1 and 13, Carlsen discloses:

converting one-bit per pixel images to multiple bits per pixel images (fig. 2; col. 8, lines 53-65)

overlapping the multiple bits per pixel images, according to an overlap function, to create a composite multiple bits per image (fig. 2; col. 8, lines 1-39);

converting the composite multiple bits per pixel image into a dithered one-bit per pixel image by applying a spatial dithering algorithm (fig. 2; col. 8, lines 40-44; halftoning is equivalent to spatial dithering);

and presenting the dithered one-bit per pixel image on a display (col. 6, lines 3-14).

8. As to claim 2, Carlsen discloses applying a first gray level to a first image and a second gray level to a second image wherein the gray levels are applied so as to create visual distinction between the images (col. 10, lines 24-42; each segment of an image has a different gray level applied; this is reasonably similar to separate images that have different gray levels applied).

9. As to claim 3, Carlsen discloses a number of overlap functions including an ADD function (col. 8, lines 20-39).

10. As to claims 7, 16, and 19, Carlsen discloses a method wherein the device is a one-bit per pixel computer monitor (col. 6, lines 3-14; if halftone data is output, the display is displaying data with only one bit per pixel).

11. As to claim 14, Carlsen discloses memory for storing instructions for performing conversion and blending steps and a processor for performing the instructions (fig. 1, elements 51, 52, 58, 64).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 4-6, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlsen.

14. As to claims 4 and 15, as best understood, Carlsen does not expressly disclose steps performed in virtual memory. However, official notice has been taken of the fact that performing image functions in virtual memory is well-known in the art (see MPEP 2144.03). Every modern operating system uses virtual memory on a hard disk to emulate RAM. In Windows XP®, for instance, this virtual memory can be found at the location C:/pagefile.sys. It would have been obvious to one skilled in the art to modify Carlsen to use virtual memory in order to expand the memory capabilities for a given computer system.

15. As to claims 5, 6, 17, and 18, Carlsen does not expressly disclose a dithered one-bit per pixel image on a watch face, nor does Carlsen disclose a hand-held information processing system. However, official notice has been taken of the fact that both one-bit per pixel watch and handheld computer displays are well-known in the art (see MPEP 2144.03). Most LCD watches sold have elements that are either on or off, and many PDAs (handheld processing systems) use displays that are also only capable of one-bit pixels. It would have been obvious to one skilled in the art to modify Carlsen to use a watch or handheld computer in order to increase portability of the display system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Richer whose telephone number is (571) 272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMR
5/19/06

Kee M. Tung
Primary Examiner